Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-16 (Canceled)

Claim 17 (Withdrawn): A method for lysing erythrocytes adherent due to a pathological condition, said method comprising administering to a patient with said adherent erythrocytes antibodies that specifically bind to a protein having an amino acid sequence YETFSKLIKIFQDH (SEQ ID NO:5) on said erythrocytes, wherein binding of said antibodies to said amino acid sequence results in destruction of said adherent erythrocytes.

Claim 18 (Withdrawn): A method of claim 17, wherein said pathological condition is selected from the group consisting of diabetes, thalassemia, sickle cell anemia, and malaria.

Claim 19 (Withdrawn-currently amended): A method for lysing erythrocytes adherent due to a pathological condition, said method comprising administering to a patient with said pathologically adherent erythrocytes an isolated peptide of 40 or fewer amino acids, comprising a sequence with at least 80% sequence identity to a sequence $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6), or a fragment thereof, which peptide or fragment thereof, when presented as an antigen, raises antibodies which specifically bind to and cause destruction of said pathologically adherent erythrocytes, wherein X_1, X_2, X_3, X_4 and X_5 are independently selected from amino acids that bear a charge at physiological pH.

Claim 20 (Withdrawn): A method of claim 19, wherein X_1 and X_4 bear the same charge and X_2 and X_3 bear the same charge, but the charge borne by X_1 and X_4 is not the same as the charge borne by X_2 and X_3.

Claim 21 (Withdrawn): A method of claim 20, wherein the charge borne by X_2 and X_3 is positive.

Claim 22 (Withdrawn): A method of claim 19, wherein X_2 and X_3 are lysine residues.

Claim 23 (Withdrawn-currently amended): A method of claim 19, wherein said ~~peptide~~ sequence has 100% sequence identity to SEQ ID NO:6 and further wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid and X_5 is a histidine (SEQ ID NO:5).

Claim 24 (Withdrawn): A method of claim 19, wherein one or more of said amino acids is a D- amino acid.

Claim 25 (Withdrawn-currently amended): A method for lysing erythrocytes adherent due to a pathological condition, said method comprising administering to a patient with said pathologically adherent erythrocytes a nucleic acid encoding a peptide of 40 or fewer amino acids, comprising a sequence with at least 80% sequence identity to the sequence $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6), or fragment thereof which raises antibodies which specifically recognize said peptide, wherein X_1, X_2, X_3, X_4, and X_5 are independently selected from amino acids that bear a charge at physiological pH, wherein expression of said peptide raises antibodies which specifically bind to and cause destruction of said pathologically adherent erythrocytes.

Claim 26 (Withdrawn): A method of claim 25, wherein X_1 and X_4 bear the same charge and X_2 and X_3 bear the same charge, but the charge borne by X_1 and X_4 is not the same as the charge borne by X_2 and X_3.

Claim 27 (Withdrawn): A method of claim 25, wherein the charge borne by X_2 and X_3 is positive.

Claim 28 (Withdrawn): A method of claim 25, wherein X_2 and X_3 are lysine residues.

Claim 29 (Withdrawn-currently amended): A method of claim 25, wherein said ~~peptide~~ sequence has 100% sequence identity to SEQ ID NO:6 and further wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid and X_5 is a histidine (SEQ ID NO:5).

Claim 30 (Currently amended): A composition of (a) an isolated peptide of 40 or fewer amino acids, comprising a sequence ~~of the formula~~ with at least 80% sequence identity to a sequence of the formula $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6), wherein X_1, X_2, X_3, X_4 and X_5 are independently selected from amino acids that bear a charge at physiological pH, and wherein antibodies raised by said peptide bind to and cause destruction of pathologically adherent erythrocytes, and (b) a pharmaceutically acceptable carrier.

Claim 31 (Original): A composition of claim 30, wherein X_1 and X_4 bear the same charge and X_2 and X_3 bear the same charge, but the charge borne by X_1 and X_4 is not the same as the charge borne by X_2 and X_3.

Claim 32 (Original): A composition of claim 30, wherein the charge borne by X_2 and X_3 is positive.

Claim 33 (Original): A composition of claim 30, wherein X_2 and X_3 are lysine residues.

Claim 34 (Currently amended): A composition of claim 30, wherein said ~~peptide~~ sequence has 100% sequence identity to SEQ ID NO:6 and further wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid, and X_5 is a histidine (SEQ ID NO:5).

Claim 35 (Original): A composition of claim 30, wherein one or more of said amino acids is a D- amino acid.

Claim 36 (Currently amended): An isolated peptide of 40 or fewer amino acids, comprising a sequence with at least 80% sequence identity to the sequence $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6) or fragment thereof, which peptide or fragment, when presented as an antigen, raises antibodies that specifically bind to SEQ ID NO:5 and cause destruction of pathologically adherent erythrocytes and wherein X_1, X_2, X_3, X_4 and X_5 are independently selected from amino acids that bear a charge at physiological pH.

Claim 37 (Original): An isolated peptide of claim 36, wherein X_1 and X_4 bear the same charge and X_2 and X_3 bear the same charge, but the charge borne by X_1 and X_4 is not the same as the charge borne by X_2 and X_3.

Claim 38 (Original): An isolated peptide of claim 36, wherein the charge borne by X_2 and X_3 is positive.

Claim 39 (Original): An isolated peptide of claim 36, wherein X_2 and X_3 are lysine residues.

Claim 40 (Original): An isolated peptide of claim 36, which ~~peptide~~ sequence has 100% sequence identity to SEQ ID NO:6 and further wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid and X_5 is a histidine (SEQ ID NO:5).

Claim 41 (Original): An isolated peptide of claim 36, wherein one or more of said amino acids is a D- amino acid.

Claim 42 (Withdrawn-currently amended): An isolated nucleic acid encoding a peptide of 40 or fewer amino acids, comprising a sequence with at least 80% sequence identity to $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6) or a fragment thereof, which peptide or fragment, when presented as an antigen, raises antibodies that specifically bind to SEQ ID NO:5 and cause destruction of pathologically adherent erythrocytes and further wherein X_1, X_2, X_3, X_4, and X_5 are independently selected from amino acids that bear a charge at physiological pH.

Claim 43 (Withdrawn): An isolated nucleic acid of claim 42, wherein X_1 and X_4 bear the same charge and X_2 and X_3 bear the same charge, but the charge borne by X_1 and X_4 is not the same as the charge borne by X_2 and X_3.

Claim 44 (Withdrawn): An isolated nucleic acid of claim 42, wherein the charge borne by X_2 and X_3 is positive.

Claim 45 (Withdrawn): An isolated nucleic acid of claim 42, wherein X_2 and X_3 are lysine residues.

Claim 46 (Withdrawn): An isolated nucleic acid of claim 42, wherein said encoded ~~peptide~~ sequence has 100% sequence identity to SEQ ID NO:6 and further wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid, and X_5 is a histidine (SEQ ID NO:5).

Claim 47 (Withdrawn): An isolated nucleic acid of claim 42 operably linked to a promoter.

Claim 48 (Withdrawn): An isolated nucleic acid of claim 46 operably linked to a promoter.

Claim 49 (Withdrawn-currently amended): A composition of (a) an isolated nucleic acid encoding a peptide of 40 or fewer amino acids, comprising a sequence with at least 80% sequence identity to the sequence $YX_1TFSX_2LIX_3IFQX_4X_5$ (SEQ ID NO:6) or fragment thereof, which peptide or fragment, when presented as an antigen, raises antibodies that specifically bind to SEQ ID NO:5 and cause destruction of pathologically adherent erythrocytes, wherein X_1, X_2, X_3, X_4, and X_5 are independently selected from amino acids that bear a charge at physiological pH, and (b) a pharmaceutically acceptable carrier.

Claim 50 (Withdrawn): A composition of claim 49, wherein X_2 and X_3 are lysine residues, X_1 is a glutamic acid, X_4 is an aspartic acid, and X_5 is a histidine (SEQ ID NO:5).